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MEMORANDUM FOR PRS (In-House Publication)

FROM: PROI (STINFO)

22 July 2002

SUBJECT: Authorization for Release of Technical Information, Control Number: **AFRL-PR-ED-AB-2002-189**  
Ron Spores (AFRL/PRSS) & Mitat Birkan (AFOSR), "Overview of USAF Electric Propulsion Program" (abstract only)

5528

**28<sup>th</sup> Int'l Electric Propulsion Conference**  
**(Toulouse, France, 17-21 March 2003) (Deadline: 14 August 2002)**

(Statement A)

Arlington, VA 22203

### Abstract

An overview of current electric propulsion research and development efforts within the United States Air Force is presented. The Air Force supports electric propulsion primarily through the Air Force Office of Scientific Research (AFOSR), the Air Force Research Laboratory (AFRL) and the AFOSR European Office of Aerospace Research and Development (EOARD). Overall direction for the programs comes from Air Force Space Command (AFSPC), with AFRL mission analysis used to define specific technological advances needed to meet AFSPC priorities. AFOSR funds basic research in electric propulsion throughout the country in both academia and industry. The AFRL Propulsion Directorate conducts electric propulsion efforts in basic research, engineering development, and space flight experiments. EOARD supports research at foreign laboratories that feeds directly into AFOSR and AFRL research programs. Current research efforts fall into 3 main categories defined loosely by the thruster power level. All three agencies are conducting research at the low-power regime ( $P < 200W$ ), in support of emerging USAF microsatellite missions. Efforts in the mid-power range (500W to 5kW) are being shifted from research and development to thruster/spacecraft integration issues. The high power regime ( $P > 30kW$ ) is realizing increased emphasis.